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**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application Number: 10/046,535
Filing Date: January 16, 2002
Appellant(s): HOYT ET AL.

Bryan Davidson
For Appellant

**EXAMINER'S ANSWER**



This is in response to the appeal brief filed December 30, 2004.

*(1) Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

*(2) Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

*(3) Status of Claims*

The statement of the status of the claims contained in the brief is correct.

*(4) Status of Amendments*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

*(5) Summary of Claimed Subject Matter*

The summary of claimed subject matter contained in the brief is correct.

*(6) Grounds of Rejection to be Reviewed on Appeal*

The appellant's statement of the ground of rejection to be reviewed on appeal in the brief is substantially correct. The changes are as follows:

Claim 2 is rejected under 35 USC 103(a) as being unpatentable over Seagraves *in view of Lin* and in further view of Anton or Lijten. The addition of Lin corrects a typographical error in the Final Rejection filed January 30, 2004. Note in the first Office Action (August 13, 2003), claims 1 and 8 were anticipated by the cited Segraves patent, while claim 2 was obvious over Segraves in view of Anton or Lijten (see page 3, section 4 and page 8, section 10 of said Office Action). Due to appellant's amendment filed November 4, 2003, the 102 rejection of claims 1 and 8 by Segraves was changed to a 103 rejection over Segraves in view of Lin (page 2, section 4 of Final Office Action). However, the Lin reference was inadvertently omitted from the rejection of claim 2 (page 3, section 5 of Final Office Action). Since claim 2 depends from claim 1, claim 2 was clearly intended to be rejected under 103 over Segraves in view of Lin, as applied to claim 1, and in further view of Anton or Lijten.

***(7) Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

***(8) Prior Art of Record***

| | | |
|---|---|---|
| US 4,069,363 | Segraves et al. | 01/1978 |
| US 4,075,378 | Anton et al. | 02/1978 |
| US 5,447,794 | Lin | 09/1995 |
| US 5,468,555 | Lijten et al. | 11/1995 |
| US 5,340,886 | Hoyt et al. | 08/1994 |

*(9) Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1, 4, and 6-8 are rejected under 35 USC 103(a) as being unpatentable over US 4,069,363 issued to Segraves et al. in view of US 5,447,794 issued to Lin.

Appellant claims a method of making a stain-resistant sheath/core nylon filament having an essentially undyed nylon sheath and an acid-dyed nylon core. The method comprises:

(a) providing a dye bath containing an acid dye,

(b) forming a nylon sheath/core filament comprising a less than about 10% sheath polymer surrounding a core polymer, wherein the sheath polymer is resistant to acid dye with an amine end group concentration (AEG) of less than about 10 meq/kg, and wherein the core polymer is acid-dyeable with an AEG concentration of about 10-100 meq/kg,

(c) bringing the nylon sheath/core filament into contact with the acid dyebath, and

(d) allowing the acid dye to diffuse or penetrate through the sheath to the core while the sheath remains substantially undyed.

The sheath is preferably 3-10 wt.% of the filament, while the core is preferably 90-97 wt.% of the filament. The sheath preferably has an AEG concentration of less than about 5 meq/kg. The sheath polymer is preferably a nylon 6/12 homopolymer while the core polymer is nylon 6, nylon 6/12, nylon 11, nylon 6/6, nylon 6/10 or copolymers or blends thereof.

Segraves discloses a nylon bicomponent fiber comprising a sheath of nylon homopolymer and a core of a copolymer hexamethylene dodecanedioamide (nylon 6/12) and epsilon-caproamide (nylon 6) (abstract and col. 1, lines 57-63). The sheath homopolymer may

be nylon 6/12, nylon 6/6, or nylon 6 (col. 3, line 67-col. 4, line 4). Upon acid dyeing the sheath/core fiber, the dye is predominantly taken up by the core polymer, leaving the nylon homopolymer sheath light in color (col. 4, lines 16-24).

Segraves fails to explicitly teach a sheath/core ratio range of 3/97 wt.% to 10/90 wt.%. However, the claimed range is well-known in the art. For example, the Lin patent is directed to sheath/core polyamide filaments useful in carpet constructions that are resistant to staining by coffee and acid dyes common in beverages. The sheath component is comprised of nylon 6,12, nylon 12, nylon 6,10, or nylon 11 and the core may be nylon 6,6, nylon 6, or copolymers thereof. (Title; Abstract; and col. 1, lines 5-11 and 42-64). The weight ratio of the sheath component to the core component is in the range of 10:90 to 80:20 (col. 1, lines 35-42). Hence, it would have been obvious to one of ordinary skill in the art to employ the presently claimed sheath/core ratio of about 10/90 wt.% as taught by Lin in the Segraves invention in order to produce a successful uniform sheath/core nylon filament for carpet constructions comprising a low amount of sheath polymer, which would reduce the amount of cost for the sheath polymer and/or reduce the thickness of the fiber.

Additionally, Lin exemplifies a nylon 6/6 core polymer having an AEG concentration of about 50 meq/kg, but is silent with respect to said concentration for the sheath polymer (col. 5, lines 5- 17). However, Lin's goal is to produce a nylon bicomponent fiber that is resistant to staining by coffee and acid dyes found in food and beverages. Although Segraves does not explicitly teach an AEG concentration of the sheath or core nylon, it is asserted that the claimed AEG concentrations are met by the Segraves disclosure, or at least, readily obvious over the prior art. Specifically, the core of Segraves is easily dyeable, while the sheath remains light in

color or substantially undyed when dyed by an acid dyebath. As one skilled in the art readily knows, by definition, an acid-dyeable or anionic nylon has to have sufficient amine end groups available for reaction with the acid dye, while a cationic or basic-dyeable nylon has insufficient amine end groups to be dyed by acid dyes. To one skilled in the art, this means that the easily dyeable core nylon of Segraves must have a large number of amine end groups available as acid dyesites (i.e., a high AEG concentration), while the light in color or substantially undyed sheath must have very few amine end groups or acid dyesites available (i.e., a low AEG concentration). Hence, it is argued that even if the nylons of the Segraves patent do not possess the claimed AEG concentrations, it would have been readily obvious to one skilled in the art to select the nylon polymers inherently having the desired AEG concentration or to modify said nylon polymers to have the desired number of available amine end group dyesites in order to increase or decrease the dyeability of the polymer. In other words, one skilled in the art understands that to successfully make the Segraves invention, the core nylon polymer must have a relatively high AEG concentration (e.g., about 10-100 meq/kg), while the sheath nylon polymer must have a relatively low AEG concentration (e.g., less than about 10 meq/kg). Therefore, claims 1, 4, and 6-8 are rejected as being obvious over the prior art.

2. Claim 2 is rejected under 35 USC 103(a) as being unpatentable over the cited Segraves and Lin patents, as applied to claim 1 above and in further view of US 4,075,378 issued to Anton et al. or US 5,468,555 issued to Lijten.

Claim 2 limits the filament to being a trilobal filament.

Neither Segrave nor Lin disclose trilobal filaments. However, it is well-known in the art to have trilobal cross-sectional shapes in bicomponent carpet filaments for the purposes of increasing bulk and improving soiling characteristics. For example, Lijten teaches sheath/core trilobal filaments are desirable in carpet fibers (col. 3, lines 10-21). Additionally, Anton discloses a sheath/core polyamide fiber comprising an acid-dyeable nylon core surrounded by a basic-dyeable nylon sheath (abstract). The filaments may have a round cross-section or may be trilobal (col. 3, lines 51-54). Hence, it would have been instantly obvious to one of ordinary skill in the art to practice the conceptual invention of Segrave and Lin as applied to claim 1 with trilobal filaments, motivated by the expectation of providing a higher quality fiber due to increased yarn bulk, improved soiling characteristics, and desirable visual characteristics. Therefore, claim 2 is rejected as being obvious over the cited prior art.

3. Claims 1, 2, 4, and 6-8 are rejected under 35 USC 103(a) as being unpatentable over US 4,075,378 issued to Anton et al. in view of the cited Lin patent.

Anton discloses a sheath/core polyamide fiber comprising an acid-dyeable nylon core surrounded by a basic-dyeable nylon sheath (abstract). The sheath nylon has aromatic sulfonate groups blocking the amine end groups (abstract). Thus, the fiber is able to be cross-dyed with different acid and basic dyes to produce varying color effects. Anton teaches a variety of shades are obtained in the acid-dyeable nylon by varying the AEG concentration (col. 2, lines 13-20). The sheath/core ratio ranges from 40/60 to 60/40 (col. 2, line 65-col. 3, line 1). In order to be sufficiently acid-dyeable, the core nylon should have an amine end group concentration of 40-

100 meg/kg of polymer (col. 2, lines 27-41). The basic-dyeable sheath has about 15-40 meq/kg of polymer, but is not acid-dyeable (col. 2, lines 42-47). The filaments may have a round cross-section or may be trilobal (col. 3, lines 51-54). Anton teaches suitable nylons include poly(hexamethylene adipamide) (nylon 6/6), polycaprolactam (nylon 6), and poly(hexamethylene sebacamide) (nylon 6/10) (col. 3, lines 3-15).

Thus, Anton teaches the present invention with the exception of (a) the claimed sheath/core ratio and (b) the sheath AEG concentration of less than 10 meq/kg. With respect to the former, Anton fails to explicitly teach a sheath/core ratio range of 3/97 wt.% to 10/90 wt.%. However, the claimed range is well-known in the art. For example, as discussed above, the Lin patent is directed to sheath/core polyamide filaments useful in carpet constructions. The weight ratio of the sheath component to the core component is in the range of 10:90 to 80:20 (col. 1, lines 35-42). Hence, it would have been obvious to one of ordinary skill in the art to employ the presently claimed sheath/core ratio of about 10/90 wt.% as taught by Lin in the Anton invention in order to produce a successful uniform sheath/core nylon filament for carpet constructions comprising a low amount of sheath polymer, which would reduce the amount of cost for the sheath polymer and/or reduce the thickness of the fiber.

With respect to the latter, Anton does teach a relatively low AEG concentration for the sheath polymer (i.e., 15-40 meq/kg), but fails to teach the very low value claimed by appellant (i.e., less than about 10 meq/kg). However, as is known in the art and evidenced by Anton, the degree of acid dyeability of nylon is a result effective variable dependent upon the AEG concentration (col. 2, lines 13-20). As such, it would have been readily obvious to one skilled in the art to manipulate the AEG concentration to the range claimed by appellant in order to

produce a sheath polymer that remains substantially undyed when dyed by acid dyes, but remains basic dyeable, as is desired by Anton. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 205 USPQ 215. Therefore, claims 1, 2, 4, 6, and 8 are rejected as being obvious over the cited prior art.

With respect to claim 7, Anton fails to explicitly teach nylon 6/12 as the sheath nylon polymer. However, the use of nylon 6/12 is known in the art for sheath components of bicomponent fibers. For example, Lin teaches nylon 6/12 as a suitable nylon polymer for the sheath of the bicomponent nylon carpet fiber having reduced staining by acid dyes (col. 2, lines 6-8). Hence, it would have been obvious to one skilled in the art to substitute the nylon 6/12 for the nylon 6/6 exemplified by Anton for the sheath of the bicomponent fiber (col. 4, lines 50-54). It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416. Therefore, claim 7 is also rejected.

4. Claims 1, 4, and 6-8 are rejected under 35 USC 103(a) as being unpatentable over the cited Lin patent in view of US 5,340,886 issued to Hoyt et al. and in further view of the cited Segraves patent.

The Lin patent is directed to sheath-core polyamide filaments useful in carpet constructions that are resistant to staining by coffee and acid dyes common in beverages. The sheath component is comprised of nylon 6/12, nylon 12, nylon 6/10, or nylon 11 and the core may be nylon 6/6, nylon 6, or copolymers thereof. (Title; Abstract; and col. 1, lines 5-11 and 42-64). The weight ratio of the sheath component to the core component is in the range of 10:90 to

80:20 (col. 1, lines 35-42). Additionally, Lin teaches one embodiment comprising a nylon 6/12 sheath and a nylon 6/6 core, wherein the nylon 6/6 core polymer has an AEG concentration of about 50 meq/kg (col. 5, lines 5-17).

Thus, Lin teaches the limitations of appellant's claims 1, 4, 7, and 8 with the exceptions of (a) the sheath having an AEG concentration of less than about 10 meq/kg, (b) dyeing the sheath/core fiber in an acid dyebath, and (c) the sheath remaining substantially undyed in the acid dyebath. However, it is asserted that these limitations are obvious over the cited Lin patent in view of Hoyt and Segraves.

Hoyt teaches acid-dye resistant polyamide fibers comprising a nylon polymer having amine end groups blocked with a chemical blocking agent (abstract). Suitable polyamides are nylon 6, nylon 6/6, nylon 6/12, and nylon 12 (col. 4, lines 26-29). By blocking the AEG's with a blocking agent the available acid dye sites are reduced, thereby making the fiber acid dye resistant (col. 6, lines 38-47). In other words, the nylon is resistant to being dyed by acid dyes in a dyebath and to being stained by acid dyes such as those found in food products. The nylon fibers treated with a blocking agent have titratable AEG concentrations of less than 25 meq/kg, while lightly colored nylons (i.e., substantially undyed by acid dyes) may have concentrations in the range of 2-20 meq/kg (col. 7, lines 3-17).

Thus, it would have been obvious to one skilled in the art to employ a nylon treated with a blocking agent as taught by Hoyt for the sheath component of the Lin invention. Motivation to do so would be to further enhance the Lin fiber's resistance to acid dyes by blocking the amine end group acid dye sites. In modifying the sheath of the Lin fiber with the Hoyt nylon, the present limitations of the core polymer being dyed while the sheath polymer remains

substantially undyed is automatically met since the majority of the available dye sites of the sheath polymer, as measured by the AEG concentration, are blocked.

The disclosures of Lin and Hoyt do not explicitly teach dyeing the nylon bicomponent fibers. However, dyeing of carpet fibers is common in the art. Additionally, as discussed above, Segraves teaches dyeing a sheath/core polymer wherein the dye penetrates into the core polymer but leaves the sheath essentially undyed. Thus, it would have been obvious to one skilled in the art to dye the fiber of Lin as modified by the Hoyt teachings in order to produce a nylon fiber which has color depth yet is resistant to staining. Other advantages of having an undyed sheath/dyed core fiber include the fiber being colorfast to washing, UV, and bleach, and abrasion resistant since the dye of the core is protected by the undyed sheath. Therefore, claims 1, 4, and 6-8 are rejected as being obvious over the cited prior art.

5. Claim 2 is rejected under 35 USC 103(a) as being unpatentable over the cited Lin, Hoyt, and Segraves patents, as applied to claim 1 above, and in further view of the cited Anton patent or US 5,468,555 issued to Lijten.

Lin, Hoyt, and Segraves do not disclose trilobal filaments. However, it is well-known in the art to have trilobal cross-sectional shapes in bicomponent carpet filaments for the purposes of increasing bulk and improving soiling characteristics. As noted above, Anton and Lijten teach trilobal filaments as carpet fibers. Hence, it would have been instantly obvious to one of ordinary skill in the art to practice the conceptual invention of Lin, Hoyt, and Segraves with trilobal filaments, motivated by the expectation of providing a higher quality fiber due to

increased yarn bulk, improved soiling characteristics, and desirable visual characteristics. Therefore, claim 2 is rejected as being obvious over the cited prior art.

***(10) Response to Argument***

1. Appellant traverses the rejection over Segraves in view of Lin by asserting "Segraves is not concerned at all with providing an anti-staining sheath/core filament" (Brief, paragraph spanning pages 5-6). As such, appellant believes "based on Segraves, one of ordinary skill in this art would not be lead to the presently claimed" invention (Brief, sentence spanning pages 5-6). In response, it is first noted that the rejection is not over Segraves alone, but rather Segraves in combination with the Lin reference. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Secondly, it is argued that the focus of the Segraves invention may not be to provide an anti-staining sheath/core filament, but the fact that Segraves teaches a nylon sheath which is lightly colored or substantially undyed by acid dyes automatically means Segraves teaches an "anti-staining sheath/core filament" in that the staining referred to by appellant is staining by acid dyes found in common food and beverages. [Note the only difference between appellant's staining and acid dyeing is that the former is by accident while the latter is intentional. The chemical reaction and the final product is the same: a nylon fiber having acid dye molecules bonded to the available amine end groups of said nylon.]

Appellant also asserts that Segraves' teaching of "lighter" in color cannot be suggestive of the claimed "essentially undyed" sheath (Brief, page 6, lines 3-5). While the preamble

limitation recites "essentially undyed," the positively recited method step recites "*substantially* undyed." "Substantial" has been found to be a broad term. *In re Nehrenberg*, 126 USPQ 383. It is the examiner's position that "substantially undyed" encompasses fibers that are "lightly colored." Additionally, it is believed that the reference teaching that the dye 'partitions preponderantly' to the core polymer (Segraves, col. 4, line 19) results in a sheath that is clearly "substantially undyed."

Appellant traverses the Lin reference by stating "Lin does not suggest at all that the therein disclosed sheath/core filament may be acid-dyed such that the core is dyed by an acid dye in a dye bath by migrating physically through the sheath (i.e., so the sheath remains substantially undyed)" (Brief, page 6, 1st paragraph). Once again, the rejection is not over Lin alone, but rather Segraves in combination with the Lin reference. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references.

Appellant concludes the traversal of the Segraves and Lin rejection by stating "even if Lin were to be combined with Segraves, the present invention would not result" (Brief, page 6, 2nd paragraph). Specifically, appellant believes "such a combination would not be suggestive of a method whereby a stain-resistant nylon sheath/core filament may be made having an essentially undyed nylon sheath and an acid-dyed nylon core" (Brief, page 6, 2nd paragraph). This statement is somewhat confusing to the examiner since it appears to be clear that Segraves teaches a sheath/core nylon filament wherein the core is acid-dyed while the sheath remains substantially undyed by said acid dye. A sheath material that is not dyed by acid dyes in an acid dyebath must have a relatively low AEG concentration. Additionally, said undyed sheath is automatically "stain-resistant" to acid dyes found in food and beverages since it has such a low

AEG concentration. Therefore, appellant's arguments are found unpersuasive and the above rejection of claims 1, 4, and 6-8 is maintained.

2. Appellant traverses the rejection of claim 2 over Segraves and Lin in view of Anton or Lijten by relying upon the argument against the rejection of claim 1 by Segraves and Lin (Brief, page 6, section 2). Specifically, appellant asserts Anton and Lijten do not "cure the deficiencies of Segraves" (Brief, last sentence of page 6 and 1st paragraph, page 7). First, it is reiterated that the rejection of claim 1 is not over Segraves alone. Secondly, Anton and Lijten are not relied upon to teach the limitations of claim 1, but only to teach the trilobal limitation of claim 2. Thirdly, since, as discussed above, the examiner does not believe any deficiencies exist in the rejection of claim 1 over Segraves in view of Lin.

Appellant also asserts that Anton actually teaches away from the claimed invention in that Anton teaches an AEG concentration of 15-40 meq/kg for a basic-dyeable, nylon sheath (Brief, page 7, 2nd paragraph). In response, in the present rejection, Anton is relied upon merely for its teaching of sheath/core trilobal fibers in carpets. As such, the cited Anton reference does not teach away from the present invention.

With respect to Lijten, appellant asserts the reference is "even less pertinent to the present invention" than those previously discussed, yet admits that the reference teaches trilobal filaments (Brief, page 7, 3rd paragraph). Lijten's teaching that trilobal sheath/core filaments are desirable in carpets is all the pertinence required from the reference in the present rejection. Since there is not a deficiency in the Segraves and Lin rejection of claim 1, Lijten, along with

Anton, need not attempt to cure anything. Therefore, appellant's arguments with respect to the rejection of claim 2 are also found unpersuasive and the above rejection is maintained.

3. Appellant traverses the rejection of claims 1, 2, 4, and 6-8 over Anton in view of Lin by reiterating that Anton teaches away from the claimed invention with its teaching of a sheath AEG concentration of 15-40 meq/kg (Brief, paragraph spanning pages 7-8). Specifically, appellant asserts "Anton discloses that such a sheath polymer having the AEG content stated is important to ensure its dyeability by basic dyes" (Brief, page 8, lines 1-2). Yes, its true that Anton teaches the sheath nylon must have a relatively low AEG concentration in order to be basic dyeable. However, what appellant repeatedly fails to understand is that by definition, a nylon that is basic dyeable has a relatively low AEG concentration. As such, also by definition, said basic dyeable nylon remains substantially undyed when subjected to an acid dyebath and is stain-resistant to acid dyes commonly found in food and beverages. Thus, Anton clearly teaches these aspects of appellants invention. What Anton fails to teach is the very low AEG concentration presently claimed. Hence, the argument was presented in the above rejection that it would have been obvious to manipulate the result effective variable of AEG concentration to achieve a desired level of dyeability or resistance to acid dyeability. Thus, Anton in no way teaches away from the claimed low AEG concentration in that the required basic dyeability is equivalent to being non-dyeable by acid dyes and in that Anton teaches AEG concentrations are a result effective variable with respect to acid dyeability. Therefore, appellants arguments are found unpersuasive and the rejection of the claims over Anton in view of Lin is maintained.

4. Appellant traverses the rejection of claims 1, 4, 6-8 over Lin, Hoyt, and Segraves by asserting that since Lin is silent with respect to an AEG concentration of its sheath polymer there is no suggestion at all to go looking for another polymer having the claimed AEG concentration (Brief, page 8, 1st paragraph of section 4). In response, Lin's objective is to provide a stain resistant sheath/core nylon carpet fiber. As such, one skilled in the art readily understands that a low AEG concentration of the sheath polymer is advantageous to providing resistance to acid dye staining. Thus, it would be obvious to one skilled in the art to employ such a low AEG nylon as that disclosed by Hoyt for the sheath polymer of Lin in order to further enhance the fiber's resistance to acid dyes by blocking the amine end group acid dye sites.

Appellant also argues that Hoyt requires the stain resistant nylon to be sulphonated (Brief, page 8, 1st paragraph of section 4). This argument is unpersuasive since the claims presently on appeal before the Board do not limit the nylon to being non-sulphonated. [Note related applications 08/715,724 and 09/860,061 contain claims drawn to sulphonate-free nylons.] Additionally, appellant's argument is incorrect in that Hoyt clearly teaches lactone-based blocking agents are suitable for both non-sulphonated nylons and sulphonated nylons (Hoyt, col. 5, lines 15-42, col. 9, lines 45-68, and col. 10, Table 1).

With respect to the role of Segraves in the present rejection, appellant argues "all that Segraves has recognized is that, "under 'certain condition,' a blend of nylon 6-12/6 polymer accepts dye readily while a nylon 6-12 polymer sheath does not" (Brief, page 8, 2nd paragraph of section 4). This statement as an argument against the present rejection is not quite understood since appellant's claims include a core of nylon 6 blends and a sheath of nylon 6/12

homopolymer, wherein the core is readily dyeable by acid dyes while the sheath is not. Thus, appellant seems to be admitting that Segraves teaches these features of the present invention, rather than arguing against the rejection. Therefore, appellant's arguments are found unpersuasive and the above rejection is maintained.

5. Appellant traverses the rejection of claim 2 over the combined art of Lin, Hoyt, Segraves in further view of Anton or Lijten by asserting that Anton and Lijten do not cure the deficiencies of the Lin, Hoyt, and Segraves rejection (Brief, page 9, 1st paragraph). Since said "deficiencies" have been adequately traversed above and found to be non-existent, the rejection of claim 2 is also maintained.

6. In summary, the presently claimed invention is held to be obvious over the various combinations of prior art. Specifically, it has been shown that it is known in the art to form a nylon sheath/core fiber comprising about 10% or less sheath polymer, wherein the core polymer has a relatively high AEG concentration while the sheath has a relatively low AEG concentration. Additionally, it has been shown that a nylon core can be dyeable by acid dyes, while the sheath will remain substantially undyed by said acid dyes. Since AEG concentration is a measure of the functional groups available for bonding to acid dye molecules, said AEG concentration is directly related to the dyeability of nylon by acid dyes. By definition, a nylon with a relatively high AEG concentration is acid dyeable, while a low AEG concentration renders a nylon that is basic dyeable or acid dye resistant, including staining by acid dyes found

in food and beverages. Hence, appellant's method of making a stain resistant sheath/core nylon fiber is found to be obvious over the prior art.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

CHERYL A. JUSKA
PRIMARY EXAMINER

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cj
March 16, 2005

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